

**UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK**

ARCADIA BIOSCIENCES, INC.,

Plaintiff,

vs.

VILMORIN & CIE, LIMAGRAIN CEREALES
INGREDIENTS SA, and ARISTA CEREAL
TECHNOLOGIES PTY LIMITED,

Defendants.

CIVIL ACTION NO.: 18-cv-8059

FIRST AMENDED COMPLAINT

JURY TRIAL DEMANDED

Plaintiff Arcadia Biosciences, Inc. (“Arcadia” or “Plaintiff”), by its undersigned counsel, by and for its Complaint against Defendants Vilmorin & Cie (“Vilmorin”), Limagrain Céréales Ingrédients SA (“Limagrain”), and Arista Cereal Technologies Pty Limited (“Arista” and together with Vilmorin and Limagrain, “Defendants”), alleges as follows:

INTRODUCTION

1. This action asserts claims for correction of inventorship (Counts I and IX), breach of contract (Count II), breach of the implied covenant of good faith and fair dealing (Count III), unfair competition (Count IV), misappropriation of Confidential Information (Count V), unjust enrichment (Count VI), conversion (Count VII), and tortious interference (Count VIII), based on Defendants’ misappropriation and misuse of an invention conceived and reduced to practice by the Arcadia Scientists (as defined below) and that is owned by Arcadia, and other unfair and tortious conduct and misuse of Arcadia Confidential Information (as defined below), which conduct by Defendants was in breach of their contractual obligations and violated common and statutory law.

THE PARTIES

2. Arcadia is a corporation organized and existing under the laws of the State of Delaware, with an office for the transaction of business at 202 Cousteau Place, Suite 105, Davis, CA 95618. Arcadia's business is the development of agricultural products, including crops with enhanced productivity and quality traits.

3. Vilmorin is, upon information and belief, a company organized and existing under the laws of France, having its principal office at 4 quai de la Mégisserie, F-75001 Paris, France.

4. Limagrain is, upon information and belief, a company organized and existing under the laws of France, having its principal office at Zone Argo Industrielle, 63720 Saint-Ignat, France. Limagrain is an affiliate of Vilmorin because it, directly or indirectly, controls, is controlled by, and/or is under common control with Vilmorin. This is confirmed by a Corporate Disclosure Statement filed in this action. (*See* Dkt # 20). Specifically, Vilmorin and Limagrain are wholly-owned direct subsidiaries of Groupe Limagrain Holding SA ("Groupe Limagrain") and their ultimate parent company is Societe Coopérative Agricole Limagrain. (*See* Dkt #20). Groupe Limagrain manages the seed research and development business operation of the Groupe Limagrain, of which Vilmorin and Limagrain are a part.

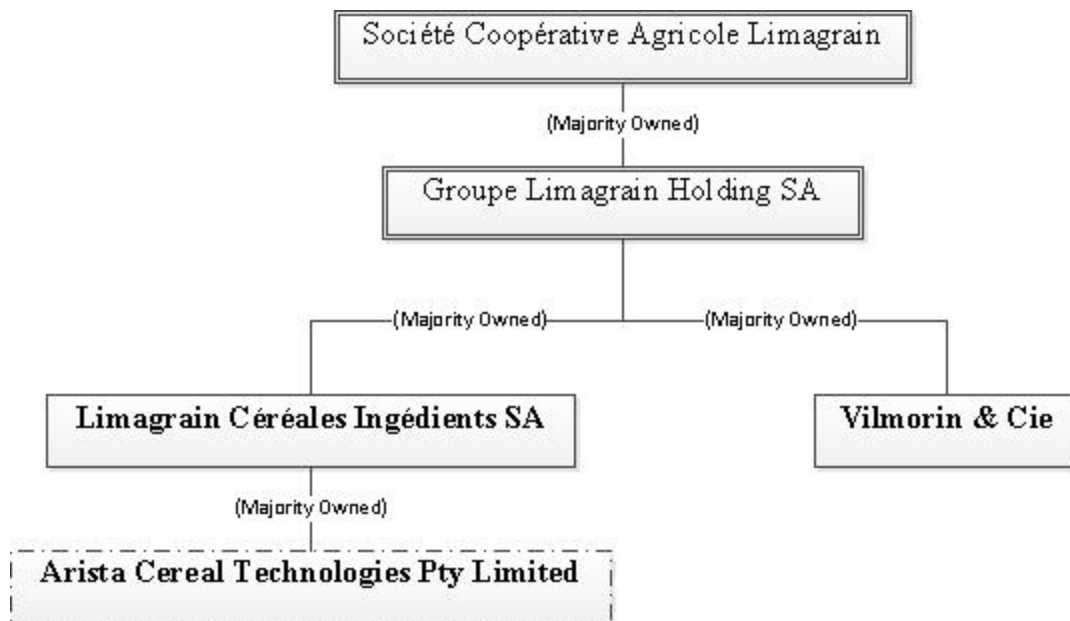
5. Arista is a joint venture that was formed in 2006 between (i) Commonwealth Scientific and Industrial Research Organization ("CSIRO"), an Australian government research agency, (ii) Grains Research and Development Corporation ("GRDC"), an Australian corporate government and Commonwealth entity, and (iii) Limagrain, with its correspondence address at Clunies Ross Street, Black Mountain Laboratories, Black Mountain ACT 2601, Australia.

6. Arista has admitted that GRDC relinquished its ownership in Arista. (*See* Dkt # 26, ¶2). As of the filing date of this action, only CSIRO and Limagrain have ownership

interests in Arista, and Limagrain owns a majority and controlling interest in Arista. (See Dkt # 26, ¶2). Thus, Arista, Vilmorin, and Limagrain are majority owned by the same ultimate parent company, making them affiliates.

7. Arista is an affiliate of Vilmorin because it is directly or indirectly controlled by and/or is under common control with Vilmorin. Specifically, in this action, Vilmorin and Limagrain have each admitted facts that show that the other is its affiliate (*see* Dkt # 20), and Arista has admitted Limagrain owns a majority interest in Arista. (See Dkt ## 22 and 26). Therefore, Arista is directly or indirectly controlled by and/or is under common control with Vilmorin. As a result, Limagrain, Vilmorin and Arista are all, either directly or indirectly, under at least common control, making Arista an affiliate of Vilmorin.

8. Based on the Corporate Disclosure Statements filed in this action (Dkt ## 20 and 22), Defendants' corporate ownership structure proves that Defendants are affiliates:



9. Further, in Limagrain's communications with Arcadia, Limagrain has represented that it has the power to control the activities of Arista, further confirming that Arista is, directly or indirectly, an affiliate of Vilmorin.

JURISDICTION AND VENUE

10. The Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331, 1332, 1338 (a) & (b), and 1367(a) in that this is a civil action arising under the patent laws of the United States and common and statutory claims that arise from the same operative facts and form part of the same case or controversy. In addition, the amount in controversy in this action exceeds \$1,000,000, and Plaintiff is resident in California, while Defendants are each resident outside the United States. As a result, the Court also has diversity jurisdiction.

11. The Court has personal jurisdiction over Defendants because Defendants expressly consented to the jurisdiction of the courts located in the State of New York in Section 7 of a November 13, 2009 Confidentiality and Nondisclosure Agreement between Arcadia and Vilmorin (the "NDA Agreement"), which is binding on Limagrain and Arista as affiliates of Vilmorin, as provided in Section 3.5 of the NDA Agreement, and as authorized by New York law, including Sections 5-1401 and 5-1402 of New York's General Obligations Law.

12. Venue is proper in this Court pursuant to 28 U.S.C. §§ 1391(b)(3) and 1400 and as authorized by New York law, including Sections 5-1401 and 5-1402 of New York's General Obligations Law, in that Defendants are subject to personal jurisdiction in this District, Defendants consented to proper venue in any state or federal court located in the State of New York in Section 7 of the NDA Agreement, the controversy between the parties exceeds \$1,000,000 in value, and the NDA Agreement relates to obligations concerning transactions and technologies involving and valued in excess of \$1,000,000.

FACTS

Summary of Dispute

13. Starting in 2006, the Arcadia Scientists began research and development work on a high amylose wheat technology, and conceived and reduced to practice the Arcadia invention at issue in the action by no later than November 13, 2009.

14. On November 13, 2009, as part of on-going discussions and efforts by Arcadia and Vilmorin and its affiliates to pursue collaborative joint business and technology development, Arcadia entered into the NDA Agreement with Vilmorin pursuant to a desire of Arcadia and Vilmorin to discuss potential joint technology development and business opportunities. Under the protections of and within the scope of the NDA Agreement, and in connection with multiple business and technology collaboration meetings over many years, Arcadia shared technical details on its high amylose wheat technology with employees of Defendants, including employees and representatives of Limagrain and Vilmorin and at least one Limagrain employee who was an Arista Project Manager and a listed inventor on the Arista Patents (as defined below). Rather than pursue the contemplated joint development and business opportunities under discussion, Defendants instead decided to misappropriate the technologies developed by Arcadia and claim them as their own by, among other things, incorporating certain of those technologies into subject matter claimed in the Arista Patents, and by misusing Arcadia Confidential Information disclosed by Arcadia.

15. On November 2, 2012, Defendant Arista, an affiliate of Vilmorin and Limagrain, filed U.S. Patent Application Serial No. 13/668,177 (the “ ’177 Application”), which issued as U.S. Patent No. 9,357,722 B2 to Ahmed Regina, Pierre Georges Louis Berbezy, Elisabeth Marie-Anne Ida Chanliaud, Bernard Duperrier, and Matthew Kennedy Morell and entitled “High

Amylose Wheat-II,” on June 7, 2016 (the “ ’722 Patent”). On November 4, 2011, the inventors, including an inventor employed by an affiliate of Defendants, filed U.S. Patent Application Serial No. 13/289,884 (the “ ’884 Application”), which was assigned to Arista and which issued as U.S. Patent No. 9,060,533 B2 to Ahmed Regina, Matthew Kennedy Morell, Pierre Georges Louis Berbezy, Elisabeth Marie-Anne Ida Chanliaud, and Bernard Duperrier and entitled “High Amylose Wheat,” on June 23, 2015 (the “ ’533 Patent”). On August 6, 2013, Arista, an affiliate of Vilmorin and Limagrain, filed U.S. Patent Application Serial No. 13/883,456 (the “ ’456 Application”), which issued as U.S. Patent No. 9,585,413 B2 to Ahmed Regina, Matthew Kennedy Morell, Pierre Georges Louis Berbezy, Elisabeth Marie-Anne Ida Chanliaud, and Bernard Duperrier and entitled “Food Ingredients Produced from High Amylose Wheat,” on March 7, 2017 (the “ ’413 Patent”). According to the U.S. Patent and Trademark Office (“PTO”) records, Arista is the owner of the entire right, title, and interest in and to the ’722 Patent, the ’533 Patent, and the ’413 Patent (collectively, the “Arista Patents”). No Arcadia employees are listed as inventors of the Arista Patents even though they claim technologies (or at least inventive aspects of technologies) first conceived and reduced to practice by Arcadia, and that were communicated to Defendants under the protections of the NDA Agreement.

16. Defendants decided to misappropriate Arcadia’s technologies and Arcadia Confidential Information for their own commercial benefit. Defendants have been misrepresenting themselves to the world as sole owners of this technology, undermining Arcadia’s goodwill, reputation, brand, and damaging Arcadia’s ability to pursue commercial exploitation of its technology. Defendants have also been unfairly competing with Arcadia and interfering with Arcadia’s business relations to injure Arcadia in the marketplace. Arcadia seeks correction of the inventorship of the Arista Patents and also brings claims for breach of contract,

breach of the implied covenant of good faith and fair dealing, unfair competition, misappropriation of Arcadia Confidential Information, unjust enrichment, conversion, and tortious interference against Defendants relating to some or all of the subject matter of the Arista Patents and Arcadia Confidential Information, as set forth below.

Background Of The Technology

A. Wheat Grain or Seed

17. A wheat plant produces a seed that is commonly known as a wheat grain. One commercially important species of wheat plant is common bread wheat, which has the scientific name *Triticum aestivum*. Wheat grain harvested from this species of wheat plant can be processed—or milled—to form bread flour, which is widely used for making bread, and flour-based bakery products.

18. The basic anatomy of a wheat grain is illustrated in Figure 1, as follows.

Figure 1. Anatomy of a Wheat Grain (In Cross Section)

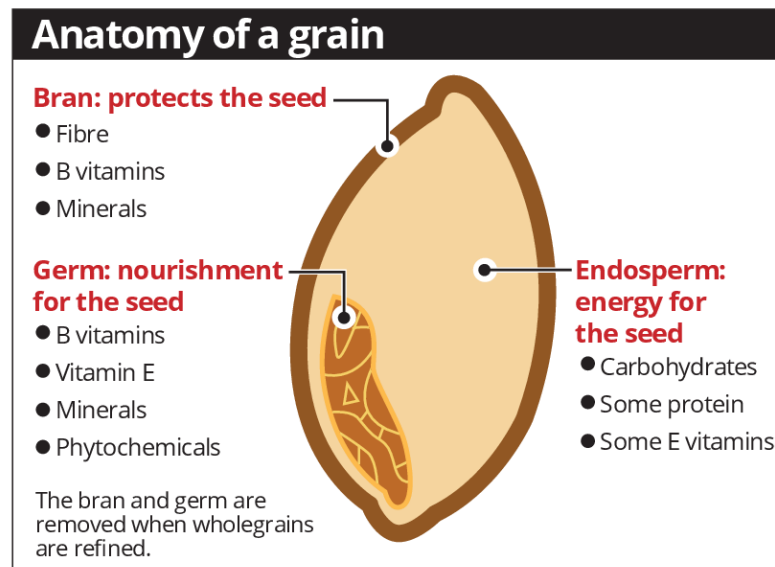


Image from Z.A.M. Daud, “Get the ‘Whole’ Grain,” March 27, 2016, published on Star2.com.

As illustrated, there are three main components of a wheat grain: (i) bran, which is a coating around the seed that serves to protect the seed; (ii) germ, which contains the embryo, or the living part of the seed that becomes a new plant, and which also provides nourishment for the embryo; and (iii) endosperm, which provides energy for the embryo when it begins to grow.

19. As can be seen in Figure 1 above, the endosperm makes up most of the wheat grain. The endosperm is a starchy storage tissue that constitutes roughly 70-80% by weight of the wheat grain. The majority of the endosperm is starch (~70-80%) and much of the remainder of the endosperm is protein (10-20%). Starch and protein provide critical nutrition for the embryo when it begins to grow (*i.e.*, when germination starts).

20. In addition to serving as a nutritive source for the embryo, the endosperm is a valuable nutritive source for those that consume wheat grain, including humans. Thus, variation in starch or storage protein type or abundance in the endosperm of wheat grain has a large impact upon the nutritional properties of the wheat grain. When the grain is used for human consumption, these nutritional properties contribute positively to the quality of the milled grain or wheat flour.

21. Wheat is a staple of the human diet and is incorporated into many food products, including bread, cereals, pizza, and pasta. With the rise in human health concerns such as obesity and diabetes, there has been an increasing interest in altering starch composition in cereal grains, such as wheat.

22. Amylose is one of two components of starch present in the endosperm of wheat grain. The other component is amylopectin. Amylose is present in the endosperm in a typical amount of about 25% of total starch on a weight/weight (“w/w”) basis, while amylopectin is present in the endosperm in a typical amount of about 75% w/w of total starch. Amylopectin is

formed of highly branched chains of glucose, whereas amylose is formed of long, mostly unbranched chains of glucose. Amylose can form complexes that when consumed are digested more slowly than amylopectin. Thus, increased amylose is associated with increased *resistant starch*, or a starch that is not digested in the small intestine of healthy individuals, but is instead fermented in the large intestine.

23. Due to its slow digestion, resistant starch does not have the same caloric load as readily digestible starch, nor does it cause as rapid a rise in blood glucose levels after ingestion. Instead, consumption of resistant starch involves a more controlled glucose release over a longer period of time after digestion. This results in a decreased glycemic response, increased insulin sensitivity, and greater feelings of satiety. Thus, as a form of dietary fiber, resistant starch contributes to better human colon health due to its fermentation by probiotic organisms in the lower gastrointestinal tract into short chain fatty acids. The amount of amylose in wheat grain positively correlates with the level of resistant starch in the wheat grain. Since wheat products account for 50% of the resistant starch consumed in the United States, increasing the amount of resistant starch (*i.e.*, amylose) in wheat grain could have tremendous human health benefits.

24. One way of increasing amylose content in wheat grain is to alter enzymes in the wheat grain that are responsible for the production of amylopectin. Critical enzymes responsible for the production of amylopectin include starch branching and debranching enzymes, along with various starch synthases. In bread wheat, simultaneous reduction of *both* Starch Branching Enzyme IIs (SBEIIa and SBEIIb) has been accomplished by transgenic methods.

25. Although it is possible to produce foods derived from transgenic plants, human consumers consider foods made from transgenic plants to be less desirable than foods made from *non-transgenic* plants. Thus, there is great interest in developing high amylose wheat by *non-*

transgenic methods. To do this, the Arcadia Scientists, based on the genetics of bread wheat, have used traditional plant breeding techniques to introduce mutations into wheat plants that would disrupt the normal activity of enzymes involved in the production of high amounts of amylopectin.

B. The Basics of Genetics

26. A plant's genetic information is contained in its cells. The genetic information of a plant cell is made up of molecules of deoxyribonucleic acid ("DNA") within the cell's nucleus. DNA is composed of four different deoxyribonucleotide subunits, generally referred to by the names of the bases attached to them: adenine (A), guanine (G), cytosine (C), and thymine (T). The nucleotide subunits of DNA are attached to each other to form two strands wound into a double helix. The two strands are held together by hydrogen bonding between specific base pairs: thymine (T) will pair only with adenine (A), and cytosine (C) will pair only with guanine (G).

27. A mutation is a heritable change in the nucleotide sequence of a cell's DNA. The change may be as small as a single nucleotide substitution, replacing A, G, C, or T with a different nucleotide, or as large as the addition, deletion, or rearrangement of one, several, hundreds, thousands, or millions of nucleotides. Since DNA is the substance that mutates, mutations are faithfully replicated—from one cell generation to the next and from one plant generation to the next. Mutations in a region of DNA that encodes "messenger RNA" or "mRNA" (the segment of nucleotides that is translated into a protein) are transcribed into mRNA and may alter the amino acid sequence of the protein encoded by the gene.

28. A point mutation typically refers to alterations affecting single nucleotide base pairs in the DNA. For this reason, a point mutation usually affects only one gene.

29. Mutations can arise spontaneously as a natural process, or they may be induced. Spontaneous mutations are caused by errors in DNA replication or natural chemical reactions in DNA. Induced mutations are caused by external agents that chemically alter DNA, usually causing increased frequency of replication errors or some form of DNA damage. Scientists sometimes induce mutations intentionally to create genetic variation.

30. Each unique gene sequence is referred to as an allele of that gene. Wild-type alleles are the versions of a gene found most often in nature. In most cases, wild-type alleles produce a functional protein product. Mutant alleles arise by mutagenesis of a wild-type allele and can have effects ranging from no effect to reducing or eliminating function, or even causing a different function, of the encoded protein.

31. The effect that a mutation has on gene function depends on the type of mutation and where in the gene the DNA mutates. Among the possible effects, a mutation may be silent (*i.e.*, produce no change in the amino acid sequence) or it may cause an alteration in the amino acid sequence of a gene's product. The effect of alteration in amino acid sequence on protein function depends on several factors including which amino acids in the polypeptide chain are altered, how many amino acids are altered, and what specific changes in amino acid sequence arise from the mutation. For example, a single base pair substitution may result in the expression of a full-length protein with altered function. It may also result in a premature stop codon that usually results in the lack of protein expression. In another example, mutations at the junction between exons and introns (splice site mutations) can disrupt RNA splicing and frequently result in out of frame translation (leading to an altered amino acid sequence) and premature stop codons. Typically, mRNA transcripts that contain a premature stop codon are eliminated by nonsense-mediated mRNA decay.

C. Basic Genetics of Bread Wheat

32. Bread wheat, like many other plant species, has a *polyploid* genetic structure.

Polyploid organisms have more than one complete chromosome set in their somatic cells (instead of the one chromosome set that a diploid organism has). Bread wheat has a complicated genetic structure of *three* complete chromosome sets (each set having two pairs of homologous chromosomes), which is referred to as a *hexaploid*. This means that bread wheat contains three separate complete sets of chromosomes, each of which has seven sets of chromosome pairs. One complete set of chromosome pairs is referred to as a *genome*. The three distinct (but very similar) genomes of bread wheat are referred to as the A, B, and D genomes.

33. **Figure 6** below is a simplified illustration of the complete complement of genetic information in bread wheat, including the A, B, and D genomes, each with seven sets of chromosome pairs.

Figure 6. Illustration of the 21 Chromosome Pairs in Bread Wheat

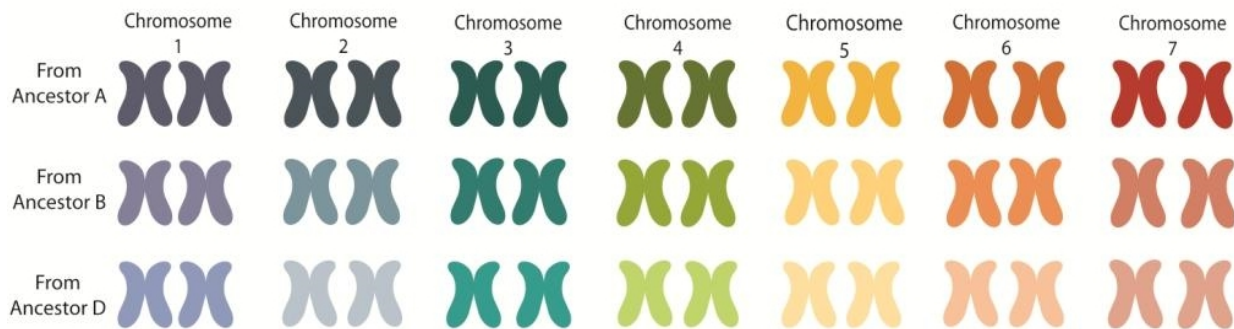


Image from Colorado Wheat, “Why is the Wheat Genome So Complicated?” November 15, 2013 (<http://coloradowheat.org/2013/11/why-is-the-wheat-genome-so-complicated/>).

D. The *SBEIIa* Gene of Bread Wheat

34. Since the three bread wheat genomes (A, B, and D) are very similar, a gene in each of the chromosome pairs of one genome (*e.g.*, the A genome) typically has corresponding genes in each of the chromosome pairs of the other two genomes (*i.e.*, the B genome and the D

genome). Thus, for example, there are a total of three *SBEIIa* genes in bread wheat (*SBEIIa-A*, *SBEIIa-B*, and *SBEIIa-D*), each having two homologous copies of the gene, for a total of six copies. The nomenclature used to refer to the *SBEIIa* genes in the three different bread genomes is *SBEIIa-A*, *SBEIIa-B*, and *SBEIIa-D*.

35. In bread wheat, the protein product of the *SBEIIa* gene, which is known as the SBEIIa protein, is an enzyme that actively modifies chains of glucose to make the formation of amylopectin possible. Thus, combinations of mutations in the *SBEIIa* genes in wheat grain that each reduce or eliminate the activity of SBEIIa protein result in increased levels of amylose in the wheat grain.

36. Since each of the wild-type *SBEIIa-A*, *SBEIIa-B*, and *SBEIIa-D* genes produces SBEIIa protein, it is desirable to mutate each of these genes to prevent each of them from producing functional SBEIIa protein. In the absence of functional SBEIIa protein, less amylopectin is made in the grain's endosperm, resulting in a higher amount of amylose.

Arcadia's Development Of The Technology In Dispute

37. By no later than April 13, 2007, Arcadia scientists Ann J. Slade, Dayna L. Loeffler, Aaron M. Holm, and Jessica C. Mullenberg (the "Arcadia Scientists"), conceived of obtaining wheat plants and wheat grain with homozygous null and/or loss of function mutations in all three *SBEIIa* genes, where at least one of these mutations is a point mutation and where the wheat grain is viable. For example, the Arcadia Scientists conceived of wheat grain including, but not limited to, wheat grain (*Triticum aestivum*) comprising an embryo and starch, where the embryo comprises two identical null alleles of an *SBEIIa-A* gene, two identical null alleles of an *SBEIIa-B* gene and two identical null alleles of an *SBEIIa-D* gene, where at least one of the two identical null alleles of the *SBEIIa-A* gene, or of the *SBEIIa-B* gene or of the *SBEIIa-D* gene are

point mutations, where SBEIIa protein is undetectable in the wheat grain, and where (a) the starch comprises amylose such that the grain has an amylose content of between 50% and 90% (w/w) as a proportion of the extractable starch of the grain; and (b) the wheat grain germinates. The Arcadia Scientists also conceived of a process for producing a milled product comprising the steps of (i) obtaining the above wheat grain and (ii) milling the grain, thereby producing the milled product. (The above is collectively referred to herein as the “Arcadia Invention”). An excerpt of a witnessed laboratory notebook issued to Ann J. Slade, Ph.D. providing a quarterly report evidencing this conception is attached as **Exhibit A**.

38. By November 13, 2009, the Arcadia Scientists achieved a corroborated reduction to practice of the Arcadia Invention. A redacted excerpt of a witnessed laboratory notebook issued to Ann J. Slade, Ph.D., evidencing that reduction to practice is attached as **Exhibit B**.

39. The Arcadia Invention was developed independently by the Arcadia Scientists with no input or involvement from Defendants.

40. The Arcadia Invention was developed independently by the Arcadia Scientists before there was any exchange of technical or scientific information on the Arcadia Invention between Arcadia and Defendants.

The NDA Agreement

41. Vilmorin is a French company that is involved, either directly or indirectly through its affiliates in, among other things, researching, developing, and breeding plants.

42. Vilmorin, either directly or indirectly through its affiliates, has worked and collaborated with Arcadia on various projects involving, among other things, researching and developing genetically modified plants and, for a period of time pursuant to their joint development and collaborative efforts was an equity owner in Arcadia, which equity ownership

was relinquished in March 31, 2017. Arcadia and a Defendant affiliate named Vilmorin USA Corp. were also members of an LLC named Limagrain Cereal Seeds LLC, which joint membership interest ended the same date. This equity interest and joint venture entity were in furtherance of the extensive and long-term joint technology development discussions and collaboration between Arcadia and Defendants. These facts show the broad extent of the collaboration efforts between Arcadia and Defendants.

43. In connection with potential business and technical discussions between Vilmorin and Arcadia, on November 13, 2009, the parties entered into the NDA Agreement.

44. Recital C of the NDA Agreement broadly describes the “Purpose” of the NDA Agreement as discussions regarding a business relationship between the parties, including technical and business issues.

45. Section 1.1 of the NDA Agreement broadly defines “Affiliate” as any existing or future entity controlled by, controlling, or under common control with a party, directly or indirectly.

46. Section 1.3 of the NDA Agreement broadly defines “Confidential Information” to include, without limitation, technical and scientific information provided by Arcadia under the NDA Agreement.

47. Section 3.1 of the NDA Agreement sets forth prohibitions on use or disclosure of Confidential Information provided under the NDA Agreement in connection with any activity other than the “Purpose” as defined in the NDA Agreement.

48. Section 3.5 of the NDA Agreement provides that the NDA Agreement is fully binding on “Affiliates” of Vilmorin, which includes Limagrain and Arista.

49. Section 7 of the NDA Agreement confirms the consent of Vilmorin, Arcadia, and their “Affiliates” to jurisdiction in the State of New York and New York choice of law for any claims relating to or arising from the NDA Agreement.

50. The NDA Agreement relates to and governs transactions, technologies, and business activities between the parties involving and valued at many millions of dollars.

51. Arista and Limagrain are deemed parties to the NDA Agreement because Section 3.5 of that agreement states: “With respect to Vilmorin, however, all its Affiliates shall be deemed to have assented to the terms and conditions of this Agreement notwithstanding the lack of any additional written agreement to that effect.” This provision survives expiration or termination of the NDA Agreement, as provided in Section 10 of the NDA agreement.

Arcadia’s Communication Of The Arcadia Invention And Arcadia Confidential Information To Vilmorin And Its Affiliates Under The NDA Agreement

52. As explained more fully *infra*, after Arcadia independently developed the Arcadia Invention, it took that invention to Defendants as part of a joint development and collaboration effort. However, rather than collaborate with Arcadia, Defendants took the Arcadia Invention and improperly incorporated it into subject matter claimed in the Arista Patents and engaged in improper conduct relating to Arcadia Confidential Information.

53. After execution of the NDA Agreement, Vilmorin and its affiliates (including without limitation Limagrain and Arista), on the one hand, and Arcadia, on the other hand, proceeded to have numerous discussions and meetings regarding potential areas of business and technical collaboration. As noted above, Limagrain and Arista are affiliates of Vilmorin under the terms of the NDA Agreement based on facts admitted in this action. (*See* Dkt ## 20 and 22).

54. On March 19, 2010, there was a meeting between representatives of Arcadia and representatives of Defendants, including without limitation Roger Salameh and Dr. Ann Slade

for Arcadia and representatives of one or more Defendants, including Georges Freyssinet. The contemporaneous meeting agenda and an April 5, 2010 follow-up letter from Mr. Freyssinet makes clear that he was acting as a representative of both Limagrain and Vilmorin at that meeting. At that meeting, Arcadia made disclosures regarding the Arcadia Invention. During this meeting, representatives of Arcadia also gave a PowerPoint presentation, titled “High Amylose Wheat” (the “Arcadia March Presentation”). The Arcadia March Presentation detailed the Arcadia Invention. The Arcadia March Presentation included, among others, slides describing the achievement of mutant hexaploid wheat lines having combined loss of function point mutations in *SBEIIa-A*, *SBEIIa-B*, and *SBEIIa-D* (*i.e.*, 6 *SBEIIa* alleles which each comprise a loss of function mutation), which produced viable wheat seed (or grain) that germinated and that had a high amylose content. Representatives of Arcadia communicated that the grain was milled. Each slide of the Arcadia March Presentation was marked “CONFIDENTIAL”. The information disclosed by Arcadia at that meeting was encompassed and protected by the NDA Agreement.

55. On June 11, 2010, there was a meeting between representatives of Arcadia and representatives of Defendants, including without limitation, representatives of one or more Defendants, including Elisabeth Chanliaud (an employee of Limagrain and/or Vilmorin, an Arista Project Manager, and an inventor on the Arista Patents, which are assigned to Arista), and Roger Salameh, Eric Rey, and Victor Knauf of Arcadia, where Arcadia made disclosures to Defendants regarding the Arcadia Invention. The information disclosed by Arcadia at that meeting was encompassed and protected by the NDA Agreement.

56. On September 23, 2010, there was a meeting between representatives of Arcadia and representatives of one or more Defendants, including without limitation, Elisabeth Chanliaud

(an employee of Limagrain and/or Vilmorin, an Arista Project Manager, and an inventor on the Arista Patents, which are assigned to Arista), and Roger Salameh and Eric Rey of Arcadia, where Arcadia made disclosures to Defendants regarding the Arcadia Invention. During this meeting, representatives of Arcadia gave a PowerPoint presentation, titled “High Amylose Wheat” (the “Arcadia September Presentation”). The Arcadia September Presentation detailed the Arcadia Invention. The Arcadia September Presentation included, among others, slides describing the achievement of mutant hexaploid wheat lines having combined loss of function point mutations in *SBEIIa-A*, *SBEIIa-B*, and *SBEIIa-D* (i.e., 6 *SBEIIa* alleles which each comprise a loss of function mutation), which produced viable wheat seed (or grain) that germinated and that had a high amylose content. Representatives of Arcadia communicated that the grain was milled. Each slide of the Arcadia September Presentation was marked “CONFIDENTIAL”. The information disclosed by Arcadia at that meeting was encompassed and protected by the NDA Agreement.

57. Following the meeting on September 23, 2010, on September 29, 2010, Arcadia transferred by email to Defendants an electronic copy (in PDF file format, named “Resistant Starch - Arista September 23, 2010.pdf”) of the Arcadia September Presentation, detailing the Arcadia Invention and other confidential information. Each page of the electronic copy of the presentation was marked “CONFIDENTIAL.” Receipt of the presentation was confirmed by Elisabeth Chanliaud (an employee of Limagrain, an Arista Project Manager, and an inventor on the Arista Patents, which are assigned to Arista). The information disclosed by Arcadia in that slide presentation was encompassed and protected by the NDA Agreement.

58. Collaborative business and technology discussions between Arcadia and Defendants continued for years after the 2010 meetings detailed herein, up to and including a

meeting on February 21, 2017 where detailed technical information was again provided to Defendants.

59. The claims in the Arista Patents include limitations that claim the subject matter of the Arcadia Invention that was disclosed to Defendants in these many collaboration meetings and discussions. Arcadia's disclosures relating to the Arcadia Invention also included technical information and data not specifically claimed in the Arista Patents, including specific *SBEIIa* and *SBEIIb* mutations as well as *SBEIIa* and *SBEIIb* mutant combinations, milling data, protein and amino acid content data, resistant starch content data, field trial plans, information to offset yield penalty, other gene targets, yield boost genes, grain width yield targets, and food products containing milled high amylose bread and durum wheat ("Arcadia Confidential Information"). This additional technical information is highly relevant to Defendants' commercial products, and Arcadia believes that Defendants are also misusing and misappropriating this additional technical information for Defendant's business activities. Review of Defendants' internal research and development records, which will be the subject of discovery in this action, will be necessary to determine the full scope and timing of these additional misuses of Arcadia Confidential Information. This misappropriation, misuse, and conversion of Arcadia Confidential Information are separate from and in addition to the misappropriation, misuse, and conversion that occurred through the issuance of the Arista Patents.

60. Even before executing the NDA Agreement and participating in the various collaborative discussions and meetings that followed in which Arcadia disclosed the Arcadia Invention to Defendants, Defendants recognized the need to collaborate with Arcadia to obtain viable wheat grain having combined loss of function point mutations in *SBEIIa-A*, *SBEIIa-B*, and *SBEIIa-D*.

61. The necessity of collaborating with Arcadia is underscored by the specifications in the Arista Patents, which disclose multiple failures by the named inventors of the Arista Patents to themselves obtain viable wheat grain having complete loss of function mutations in *SBEIIa-A*, *SBEIIa-B*, and *SBEIIa-D*. Specifically, very shortly after the discussions with Arcadia detailed above, on November 4, 2010, Arista filed U.S. Provisional Patent Application Serial No. 61/410,288 (the “ ’288 Provisional”), stating:

The present invention is based in part on the observations made in the experiments described herein that wheat plants completely lacking SBEIIa activity throughout the plant could not be recovered in crosses designed to produce them, indeed the complete lack of SBEIIa was concluded to be lethal to seed development and/or fertility. This was surprising since previous studies have shown that single null mutants in *SBEIIa* could readily be obtained in wheat and were fertile. Moreover, it was observed that the minimum level of SBEIIa activity that needed to be retained in the wheat plant to produce normal, viable seed was about 2% of the wild-type level.

’288 Provisional, p. 24, ll. 2-9 (bold emphasis added). These attempts and failures to obtain viable wheat grain having complete loss of function mutations in *SBEIIa-A*, *SBEIIa-B*, and *SBEIIa-D* are also set out in, *e.g.*, Examples 7, 8, 9, and 10 of each of the Arista Patents. It is with this backdrop of Defendants’ failed attempts to obtain a completely null *SBEIIa* wheat grain that discussions and collaboration with Arcadia were sought and disclosures regarding the Arcadia Invention and Arcadia Confidential Information were supplied to Defendants under the NDA Agreement. After these admitted failures, and after the collaborative discussions with

Arcadia and the key confidential disclosures from Arcadia, Defendants' changed their approach to overcome their failures and proceeded to, among other things, claim in the Arista Patents subject matter disclosed by Arcadia.

62. The above disclosures made by Arcadia to Vilmorin and affiliates of Vilmorin provided Vilmorin and its affiliates with detailed information on Arcadia Confidential Information, and the Arcadia Invention, which Defendants then misappropriated.

63. Under the NDA Agreement, that disclosed information could only be used by Vilmorin and its affiliates for the "Purpose," as defined in the NDA Agreement, namely the business and technical discussions between Arcadia and Defendants.

64. In breach of the NDA Agreement and applicable common and statutory law, Vilmorin and its affiliates instead misappropriated the information provided by Arcadia for their own improper benefit.

The Arista Patent Applications

65. On November 2, 2012, in violation of the NDA Agreement and its other obligations to Arcadia, Defendant Arista, a current affiliate of Vilmorin and Limagrain, filed the '177 Application, which issued as the '722 Patent on June 7, 2016. The '722 Patent is attached as **Exhibit C**. On November 4, 2011, in violation of the NDA Agreement and its other obligations to Arcadia, the inventors, including an inventor employed by an affiliate of the Defendants, filed the '884 Application, which was assigned to Arista and which issued as the '533 Patent on June 23, 2015. The '533 Patent is attached as **Exhibit D**. On August 6, 2013, in violation of the NDA Agreement and its other obligations to Arcadia, Defendant Arista, a current affiliate of Vilmorin and Limagrain, filed the '456 Application, which issued as the '413 Patent on March 7, 2017. The '413 Patent is attached as **Exhibit E**. It was through the filing of the

utility patent applications embodied in the '177 Application, the '884 Application, and the '456 Application (collectively, the "Arista Patent Applications"), that Arista and its affiliates determined to formally seek patent rights in the technologies claimed therein. Any prior-filed provisional patent applications or PCT applications only serve to establish a precursor for a claimed priority date, and they cannot by themselves, without a subsequent utility patent application filing, result in any patent rights. Further, the '288 Provisional filed on November 4, 2010, included claims that are different from those of the later-filed utility Arista Patent Applications and those that eventually issued.

66. The '177 Application, the '884 Application, and the '456 Application sought to include in their claims subject matter of the Arcadia Invention (or aspects thereof), incorrectly list only inventors associated with Defendants, and fail to list as inventors any of the Arcadia Scientists.

67. With the filing of the Arista Patent Applications, Arista and the other Defendants formally sought to obtain patent rights in the United States to the Arcadia Invention (or aspects thereof), and thereby claim sole ownership of that invention (or aspects thereof) and the right to exclude others, including Arcadia, from practicing that invention.

68. The Arista Patents claim technologies (or aspects thereof) that were first conceived and reduced to practice by Arcadia, that Defendants did not possess independently, and that Defendants derived from disclosures by Arcadia to Defendants during multiple, collaborative discussions, all of which were encompassed by the protections of the NDA Agreement. Specifically, the issued claims that resulted from the Arista Patent Applications include claims that incorporate subject matter disclosed to Defendants by Arcadia and that Defendants did not possess or understand prior to those disclosures.

69. The '177 Application did not publish until May 9, 2013. Prior to publication of the '177 Application, Arcadia had no notice of that application or that Defendants were seeking to obtain patent rights on the Arcadia Invention, and thereby claim sole ownership of that invention and the right to exclude others, including Arcadia, from practicing that invention.

70. The '177 Application issued as the '722 Patent on June 7, 2016. Defendants caused the '722 Patent to issue with an incorrect listing of inventors, namely inventors associated with Defendants, while incorrectly failing to list the Arcadia Scientists.

71. By no earlier than the issuance of the '722 Patent did the improper misappropriation and conversion of the Arcadia Scientists' inventive contributions to the inventions claimed in the '722 Patent accrue to Defendants.

72. Claim 1 of the '722 Patent, from which Claims 2 and 3 of that patent depend, claims the following:

1. A process for producing a milled product, comprising the steps of
 - (i) obtaining wheat grain (*Triticum aestivum*) comprising an embryo and starch, wherein the embryo comprises two identical null alleles of an SBEIIa-A gene, two identical null alleles of an SBEIIa-B gene and two identical null alleles of an SBEIIa-D gene, wherein either the two identical null alleles of the SBEIIa-A gene, or of the SBEIIa-B gene or of the SBEIIa-D gene are point mutations, wherein SBEIIa protein is undetectable in the wheat grain, and wherein
 - (a) the starch comprises amylose such that the grain has an amylase¹ content of between 50% and 90% (w/w) as a proportion of the extractable starch of the grain; and
 - (b) the wheat grain has a germination rate of about 70% to about 100% relative to the germination rate of a wild-type wheat grain, and
 - (ii) milling the grain, thereby producing the milled product.

¹ The rendering of the word "amylase" in Claim 1 of the '722 Patent represents a typographical error in the patent. The word should be "amylose."

73. The invention claimed in Claim 1 of the '722 Patent, and the inventions claimed in dependent Claims 2 and 3 of that patent, incorporate subject matter of the Arcadia Invention that was first conceived and reduced to practice by the Arcadia Scientists and was communicated to Defendants during collaborative discussions under the protections of the NDA Agreement. At least as of March 19, 2010, or certainly by September 23, 2010, representatives of Arcadia communicated to Defendants the Arcadia Scientists' achievement of mutant hexaploid wheat lines having combined loss of function point mutations in *SBEIIa-A*, *SBEIIa-B*, and *SBEIIa-D*, which produced viable wheat seed (or grain) that reliably germinated and had a high amylose content. Representatives of Arcadia also communicated that the grain was milled. Defendants took the subject matter of the Arcadia disclosures and incorporated it into elements of the claims of the '722 Patent. For example, aspects of the Arcadia Invention are claimed in at least claim elements (i), (a), and (b) of claim 1.

74. The '884 Application published May 10, 2012. Prior to publication of the '884 Application, Arcadia had no notice of that application or that Defendants were seeking to obtain patent rights on the Arcadia Invention, and thereby claim sole ownership of that invention and the right to exclude others, including Arcadia, from practicing that invention.

75. The '884 Application issued as the '533 Patent on June 23, 2015. Defendants caused the '533 Patent to issue with an incorrect listing of inventors, namely inventors associated with Defendants, while incorrectly failing to list the Arcadia Scientists who are joint inventors of the inventions claimed in the '533 Patent.

76. By no earlier than the issuance of the '533 Patent did the improper misappropriation and conversion of the Arcadia Scientists' inventive contributions to the inventions claimed in the '533 Patent accrue to Defendants.

77. Claim 1 of the '533 Patent, from which Claims 2-10, 12-22, and 24-30 of that patent depend, claims the following:

1. Wheat grain (*Triticum aestivum*) comprising an embryo, an endosperm, starch and a reduced level or activity of total SBEII protein, wherein the embryo comprises a loss of function mutation in alleles of endogenous genes of SBEIIa-A, SBEIIa-B, SBEIIa-D, SBEIIb-A, SBEIIb-B or SBEIIb-D, such that the level or activity of total SBEII protein in the grain is between 2% and 30% of the level or activity of total SBEII protein in a wild-type wheat grain, wherein

- i) said alleles include 2, 4 or 6 SBEIIb alleles which are null alleles and 5 or 6 SBEIIa alleles which each comprise a loss of function mutation, wherein at least one of the 5 or 6 SBEIIa alleles which comprises a loss of function mutation comprises a loss of function point mutation;
- ii) the grain has a germination rate of between about 70% and about 100% relative to the germination rate of a wild-type grain, and
- iii) the starch of the grain has an amylose content of at least 50% (w/w) as determined by an iodometric method.

78. Claim 11 of the '533 Patent, from which Claim 23 of that patent depends, claims the following:

11. A wheat plant (*Triticum aestivum*) which produces grain, the grain comprising an embryo, an endosperm, starch and a reduced level or activity of total SBEII protein, wherein the embryo comprises a loss of function mutation in alleles of endogenous genes of SBEIIa-A, SBEIIa-B, SBEIIa-D, SBEIIb-B or SBEIIb-D, such that the level or activity of total SBEII protein in the grain is between 2% and 30% of the level or activity of total SBEII protein in a wild-type wheat grain, wherein

- i) said alleles include 2, 4 or 6 SBEIIb alleles which are null alleles and 5 or 6 SBEIIa alleles which each comprise a loss of function mutation, wherein at least one of the 5 or 6 SBEIIa alleles which comprises a loss of function mutation comprises a loss of function point mutation;
- ii) the grain has a germination rate of between about 70% and about 100% relative to the germination rate of a wild-type grain;
- iii) the starch of the grain has an amylose content of at least 50% (w/w) [sic] as determined by an iodometric method, and
- iv) the wheat plant is male and female fertile.

79. The invention claimed in Claims 1 and 11 of the '533 Patent, and the inventions claimed in dependent Claims 2-10 and 12-30 of that patent, incorporate subject matter of the Arcadia Invention that was first conceived and reduced to practice by the-Arcadia Scientists and that was communicated to Defendants under the protections of the NDA Agreement. At least as of March 19, 2010, or certainly by September 23, 2010, in connection with collaborative business discussions, representatives of Arcadia communicated to Defendants the Arcadia Scientists' achievement of mutant hexaploid wheat lines having combined loss of function point mutations in *SBEIIa-A*, *SBEIIa-B*, and *SBEIIa-D*, which produced viable wheat seed (or grain) that reliably germinated and had a high amylose content. Representatives of Arcadia also communicated that the grain was milled. Defendants took the subject matter of the Arcadia disclosures and incorporated it into elements of the claims of the '533 Patent. For example, aspects of the Arcadia Invention are claimed in at least claim elements i), ii), and iii) of claim 1 and elements i), ii), iii), and iv) of claim 11.

80. The '456 Application published February 13, 2014. Prior to publication of the '456 Application, Arcadia had no notice of that United States patent application or that Defendants were seeking to obtain patent rights in the United States on the Arcadia Invention, and thereby claim sole ownership of that invention and the right to exclude others, including Arcadia, from practicing that invention.

81. The '456 Application issued as the '413 Patent on March 7, 2017. Defendants caused the '413 Patent to issue with an incorrect listing inventors, namely inventors associated with Defendants, while incorrectly failing to list the Arcadia Scientists who are joint inventors of the inventions claimed in the '413 Patent.

82. By no earlier than the issuance of the '413 Patent did the improper misappropriation and conversion of the Arcadia Scientists' inventive contributions to the inventions claimed in the '413 Patent accrue to Defendants.

83. Claim 1 of the '413 Patent, from which Claims 2-7 and 11-15 of that patent depend, claims the following:

1. A process for producing a food ingredient or a drink ingredient comprising a step of processing wheat grain, wherein the wheat grain comprises an embryo, an endosperm, starch and a reduced level or activity of total SBEII protein, wherein the embryo comprises a loss of function mutation in alleles of endogenous genes of SBEIIa-A, SBEIIa-B, and SBEIIa-D, such that the level or activity of total SBEII protein in the grain is 2% to 30% of the level or activity of total SBEII protein in a wild-type wheat grain, wherein

i) said alleles include 5 or 6 SBEIIa alleles which each comprise a loss of function mutation, wherein at least one of the 5 or 6 SBEIIa alleles which comprise a loss of function mutation comprises a loss of function point mutation,

ii) the wheat grain has a germination rate of between about 70% and about 100% relative to the germination rate of a wild-type grain, and

iii) the starch of the wheat grain has an amylose content of at least 60% (w/w) as determined by an iodometric method, thereby producing the food or drink ingredient.

84. Claim 8 of the '413 Patent, from which Claims 9, 10, and 16-20 of that patent depend, claims the following:

8. A food ingredient comprising wheat flour, wholemeal or processed wheat grain, wherein the processed wheat grain is kibbled grain, cracked grain, par-boiled grain, rolled grain, pearled grain, milled grain or ground grain, wherein the wheat flour, wholemeal and processed wheat grain comprise starch and wherein the starch of the wheat flour, wholemeal or processed grain has an amylose content of at least 50% (w/w) as determined by an iodometric method, and

wherein the food ingredient comprising the wheat flour, wholemeal or processed wheat grain comprises an embryo, an endosperm, starch and a reduced level or activity of total SBEII protein, wherein the embryo comprises a loss of function mutation in alleles of endogenous genes of SBEIIa-A, SBEIIa-B, and SBEIIa-D, such that the level or activity of total SBEII protein in the grain is 2% to 30% of the level or activity of total SBEII protein in a wild-type wheat grain, wherein

- i) said alleles include 5 or 6 *SBEIIa* alleles which each comprise a loss of function mutation, wherein at least one of the 5 or 6 *SBEIIa* alleles which comprise a loss of function mutation comprises a loss of function point mutation,
- ii) the wheat grain has a germination rate of between about 70% and about 100% relative to the germination rate of a wild-type grain, and
- iii) the starch of the wheat grain has an amylose content of at least 60% (w/w) as determined by an iodometric method.

85. The invention claimed in Claims 1 and 8 of the '413 Patent, and the inventions claimed in dependent Claims 2-7 and 9-20 of that patent, incorporate subject matter of the Arcadia Invention that was first conceived and reduced to practice by the Arcadia Scientists and that was communicated to Defendants under the protections of the NDA Agreement. At least as of March 19, 2010, or certainly by September 23, 2010, in connection with collaborative business discussions, representatives of Arcadia communicated to Defendants the Arcadia Scientists' achievement of mutant hexaploid wheat lines having combined loss of function point mutations in *SBEIIa-A*, *SBEIIa-B*, and *SBEIIa-D*, which produced viable wheat seed (or grain) that reliably germinated and had a high amylose content. Representatives of Arcadia also communicated that the grain was milled. Defendants took the subject matter of the Arcadia disclosures and incorporated it into elements of the claims of the '413 Patent. For example, aspects of the Arcadia Invention are claimed in at least claim elements i), ii), and iii) of claims 1 and 8.

86. On information and belief, Arista filed and/or prosecuted the Arista Patent Applications, obtained issuance of the Arista Patents and engaged in the other improper conduct discussed herein at the direction of Vilmorin and/or Limagrain. Arista as an affiliate of Vilmorin and Limagrain, and Limagrain's direct equity ownership interest in Arista throughout this period allowed it to participate in, direct and/or control the activities of Arista, including upon information and belief, the procurement of the Arista Patents.

The Injuries to Arcadia from Defendants' Improper Conduct

87. Defendants' wrongdoing has caused and continues to cause Arcadia monetary injury and irreparable harm.

88. With regard to the Arcadia Invention, Defendants breached their non-use obligations under the NDA Agreement, including without limitation, by no earlier than when the Arista Patent Applications were filed. With regard to Arcadia Confidential Information, Defendants' internal research and development documents to be explored in discovery will detail the timing and scope of uses of Arcadia Confidential Information.

89. With regard to the Arcadia Invention, Defendants breached their confidentiality obligations under the NDA Agreement, including without limitation, by no earlier than when the Arista Patent Applications published. With regard to Arcadia Confidential Information, Defendants' internal research and development activities to be explored in discovery will detail the timing and scope of any improper disclosures of Arcadia Confidential Information.

90. With regard to the Arcadia Invention, by no earlier than when the Arista Patents issued, Defendants misappropriated Arcadia's confidential and scientific information embodied in the Arcadia Invention as well as Arcadia Confidential Information communicated to Defendants. With regard to Arcadia Confidential Information, Defendants' internal research and development activities to be explored in discovery will detail the timing and scope of misappropriation of disclosures of Arcadia Confidential Information.

91. With regard to the Arcadia Invention, by no earlier than when the Arista Patents issued, Defendants converted Arcadia's property rights in the Arcadia Invention. With regard to Arcadia Confidential Information, Defendants' internal research and development activities to be

explored in discovery will detail the timing and scope of conversions of Arcadia Confidential Information.

92. After issuance of the Arista Patents, Defendants have used and continue to use some or all of the Arista Patents to unfairly compete and interfere with Arcadia. Following issuance of the Arista Patents, Limagrain and Arista, and it is believed their affiliate Vilmorin, have used and continue to use some or all of those patents, which they improperly obtained in violation of Arcadia's rights, and the other confidential disclosures made by Arcadia detailed above, to inhibit Arcadia's ability to develop, license, and/or launch commercial products. With regard to Arcadia Confidential Information, Defendants' internal research and development activities to be explored in discovery will detail how Defendants have taken advantage of Arcadia Confidential Information to develop their commercial products to unfairly compete with Arcadia.

93. As recently as by letter dated June 30, 2018, Arista on behalf of itself and Limagrain, and likely also on behalf of their affiliate Vilmorin, have asserted that Arcadia does not have freedom to operate to continue development work or to pursue commercial transactions because of, among other things, one of more of the Arista Patents.

94. Limagrain and Arista, and likely their affiliate Vilmorin, have also publicly promoted and continue to publicly promote their false and deceptive assertion of sole ownership of the inventions claimed in one or more of the Arista Patents to discourage potential business partners from working with Arcadia to develop, license, and/or launch commercial products, and instead do business with Defendants, whose commercial products were developed and patented in the Arista Patents by taking advantage of the Arcadia Invention and Arcadia Confidential Information.

95. Defendants have unfairly competed and interfered and continue to interfere with Arcadia's commercial relations and prospective business advantage by using, among other things, the issuance of one or more of the Arista Patents solely to Arista and other patents owned by Arista to dissuade growers, mills, and/or other development and commercial partners from working with Arcadia. Defendants have been able to do this in part because they have their own commercial products, which commercial products were developed and patented in the Arista Patents taking advantage of the Arcadia Invention and Arcadia Confidential Information. For example, in 2018 Defendants interfered with Arcadia's efforts to reach a commercial agreement with Bay State Milling, injuring Arcadia. Arcadia had an opportunity and expectation of entering into an agreement with Bay State Milling, but for this improper interference. Many other Arcadia prospective key commercial partners have also been the subject of similar interference, to the point where Arcadia is having trouble finding any key partner to collaborate with it in the United States, which is causing extreme economic pressure on and extreme and unfair injuries to Arcadia, and hardship to Arcadia's ability to launch commercial products in the United States. Arcadia believes it would have been able to enter into commercial agreements with many of these potential partners but for this interference. As a result of this improper interference, these companies have ceased or delayed commercial discussions with Arcadia and, in doing so, Bay State Milling for example, was directed to do so by at least Limagrain and Arista, likely on behalf of their affiliate Vilmorin as well.

96. By this conduct, Defendants have injured and tarnished Arcadia's business, reputation, brand, and goodwill, and thereby have undermined and damaged Arcadia's business through improper conduct. Specifically, Arcadia cannot find key commercial partners in the United States due to this interference and unfair competition. For example, this conduct has also

caused industry and consumer confusion by representations by Defendants that their scientists are the sole inventors and Defendants are the sole owners of the inventions claimed in the Arista Patents, when in fact aspects of those inventions were first conceived and reduced to practice by the Arcadia Scientists, that subject matter is owned by Arcadia, and it was taken by Defendants in violation of the NDA Agreement. Defendants have also confused consumers into thinking that their commercial products were developed solely by Defendants, when those commercial products were developed and patented in the Arista Patents by taking advantage of the Arcadia Invention and Arcadia Confidential Information.

97. Arcadia has lost key commercial opportunities and tens of millions of dollars in revenues due to Defendants' improper conduct.

98. Further, since issuance of the Arista Patents, Limagrain and Arista, and it is believed their affiliate Vilmorin, have used their false and deceptive claim to ownership of the inventions claimed therein to garner commercial relationships for themselves, thereby unjustly enriching themselves based on their improper conduct. Defendants have also unjustly enriched themselves by seeking to get commercial benefits from their commercial products by implying that those commercial products were developed solely by Defendants, when those commercial products were developed and patented in the Arista Patents by taking advantage of the Arcadia Invention and Arcadia Confidential Information.

99. Further, upon information and belief, Defendants are using Arcadia Confidential Information disclosed to them under the NDA Agreement to further their own commercial development and unfairly compete with Arcadia, thereby gaining improper commercial advantage at the expense of Arcadia and in violation of Arcadia's rights. Arcadia has detailed above the broad scope of confidential information disclosed, and Arcadia believes that discovery

will yield further specific evidence of Defendants' misuse of that information, including misuse of Arcadia Confidential Information not specifically claimed in the Arista Patents.

100. Arcadia has also suffered irreparable harm for which monetary remedies alone are inadequate. Defendants' conduct has to date deprived Arcadia of the ability to launch commercial products, thereby significantly injuring Arcadia's business and Defendants' conduct has cost Arcadia business opportunities that are now difficult if not impossible to recreate.

101. The Defendants will, if not preliminarily and permanently enjoined, continue their wrongful use and possession of Arcadia's Invention, thereby deceiving the public, improperly receiving the benefits of their unlawful and unjustified conduct, and continuing to cause Arcadia immediate and irreparable harm, damage, and injury.

CLAIMS FOR RELIEF

COUNT I (CORRECTION OF INVENTORSHIP AND DECLARATORY JUDGMENT FOR CORRECTION OF INVENTORSHIP) (Joint Inventorship Regarding the '413 Patent and the '533 Patent) (Against Arista)

102. Arcadia realleges and incorporates by reference the above allegations as if set forth in full here.

103. There is an actual and justiciable controversy between Arcadia and Defendants, because Arcadia asserts that Defendants improperly determined to take and to use confidential information of Arcadia to file the '456 and the '884 Applications that led to issuance of the '413 Patent and the '533 Patent, respectively.

104. The Arcadia Scientists are joint inventors of subject matter claimed in the '413 Patent and the '533 Patent. Therefore, inventorship of the '413 Patent and the '533 Patent should

be corrected to so state, and Arcadia should therefore be added as an assignee of the '413 Patent and the '533 Patent.

105. Defendants contest Arcadia's inventorship claims concerning the '413 Patent and the '533 Patent.

106. There is no priority of invention dispute between Arcadia and Arista at the PTO regarding the '413 Patent and the '533 Patent, and no prospect of one. This is because no interference has ever been declared, Arcadia has never filed a suggestion of interference, and no pending Arcadia patent application has the same claims as those patents, so no interference could be declared.

107. Defendants' wrongful actions as detailed above have deprived Arcadia of its assignable ownership interest in the '413 Patent and the '533 Patent and the benefits therefrom.

108. Defendants' wrongful actions as detailed above have resulted in erroneous inventorship on the '413 Patent and the '533 Patent.

109. Issuance of certificates of correction for the '413 Patent and the '533 Patent on inventorship and declaratory relief will clarify and is the only means to clarify the disputed rights and obligations of the parties under federal law, is in the public interest, and is therefore appropriate to resolve this controversy.

110. Arcadia is therefore entitled to a finding pursuant to 35 U.S.C. § 256 and a declaratory judgment pursuant to 18 U.S.C. § 2201 that: (i) the Arcadia Scientists are joint inventors of the '413 Patent and the '533 Patent and certificates of correction should issue; (ii) Arcadia is a proper assignee of the '413 Patent and the '533 Patent; (iii) the currently-listed inventors are not the only inventors; and (iv) the assignments of the whole interest in the '413 Patent and the '533 Patent solely to Arista were unauthorized, improper, and invalid.

COUNT II
(BREACH OF CONTRACT)
(Against All Defendants)

111. Arcadia realleges and incorporates by reference the above allegations as if set forth in full here.

112. The NDA Agreement is a valid and enforceable contract between Vilmorin, Limagrain, and Arista.

113. Arcadia has complied with its obligations under the NDA Agreement.

114. The receiving, and then the taking, misuse and disclosure of Arcadia Confidential Information and the Arcadia Invention breached the NDA Agreement.

115. The taking, use and disclosure of Arcadia Confidential Information and the Arcadia Invention, by Defendants to support and further the launch of Defendants' commercial products breached the NDA Agreement.

116. The taking, use and disclosure of Arcadia Confidential Information and the Arcadia Invention, by Defendants for their own benefit breached the NDA Agreement.

117. The breaches of the NDA Agreement by Defendants have damaged Arcadia, depriving Arcadia of valuable property and economic opportunities, including lost profits and lost reasonable royalties, for which the Defendants are liable to Arcadia.

118. The damages caused by these breaches of contract are presently believed to exceed \$10,000,000.00, with the exact amount to be proven at trial.

COUNT III
(BREACH OF THE IMPLIED COVENANT OF GOOD FAITH AND FAIR DEALING)
(Against All Defendants)

119. Arcadia realleges and incorporates by reference the above allegations as if set forth in full here.

120. Implied in every contract, including the NDA Agreement, is a covenant of good faith and fair dealing. This means that, even though not specifically stated in the contract, it is implied or understood that each party to the contract must act in good faith and deal fairly with the other party in performing or enforcing the terms of the contract. To act in good faith and deal fairly, a party must act in a way that is honest and faithful to the agreed purposes of the contract and consistent with the reasonable expectations of the parties. A party must not act in bad faith, dishonestly, or with improper motive to destroy or injure the right of the other party to receive the benefits or reasonable expectations of the contract.

121. The actions of Defendants in without limitation: (i) taking and misusing the Arcadia Invention disclosed by Arcadia to Defendants under the NDA Agreement; (ii) prosecuting at least the '177 Application and the '456 Application based on the Arcadia Invention; and (iii) working to develop commercial products using Arcadia Confidential Information in violation of Arcadia's rights, were actions in bad faith, engaged in with deception and evasion, and designed to deny Arcadia the benefit of the bargain intended under the NDA Agreement even if those actions were not specifically barred by the express terms of the NDA Agreement. For example, filing and prosecuting patent applications is not expressly addressed in the terms of the NDA Agreement. However, under the implied covenant of good faith and fair dealing, implied in terms of the NDA Agreement would be an understanding that neither party to that agreement should file and prosecute patent applications claiming information disclosed by

the other party. Likewise, the NDA Agreement does not specifically address a recipient's assessment of disclosed information to consider new lines of products or research, but again, that obligation is implied in the NDA Agreement. Defendants' decision to engage in their improper conduct violated their obligations of good faith and fair dealing to Arcadia.

122. Defendants are therefore liable to Arcadia for the damages Arcadia has suffered, including damages, lost profits and lost reasonable royalties, as a result of Defendants' wrongful actions.

123. The damages caused by this breach of the implied covenant of good faith and fair dealing are presently believed to exceed \$10,000,000.00, with the exact amount to be proven at trial.

**COUNT IV
(UNFAIR COMPETITION)
(Against All Defendants)**

124. Arcadia realleges and incorporates by reference the above allegations as if set forth in full here.

125. The aforementioned wrongful acts by Defendants occurring as recently as 2018, constitute unfair competition and unfair business practices contrary to the common law, because, *inter alia*, Defendants are misrepresenting themselves as the sole inventors and the sole owners of the Arcadia Invention, are improperly using the Arcadia Invention and Arcadia Confidential Information communicated to Defendants in violation of Arcadia's rights, are thereby injuring and tarnishing Arcadia's business, reputation, brand, and goodwill, and thereby undermining and damaging Arcadia's business through improper conduct. For example, Defendants, including without limitation Arista and Limagrain, are actively seeking to dissuade commercial partners from doing business with Arcadia. These activities are also benefitting Vilmorin, Arista and

Limagrain's affiliate. Commencing at least with the discussions between the parties in 2010 detailed herein, Limagrain and Vilmorin acted together, including by being represented by the same person and by corresponding with Arcadia jointly for both entities. Based on this conduct, and Vilmorin's deep involvement in the collaboration with Arcadia as evidenced by its equity investment in Arcadia, Arcadia believes that Vilmorin and Limagrain have continued to act in coordination regarding the conduct at issue here.

126. Further, upon information and belief, Defendants are using the Arcadia Confidential Information disclosed to them under the NDA Agreement, not all of which is incorporated into the claims of the Arista Patents, to further their own commercial development and unfairly compete with Arcadia, thereby gaining improper commercial advantage at the expense of Arcadia and in violation of Arcadia's rights. Arcadia has detailed above the broad scope of confidential information disclosed to Defendants, and Arcadia believes that discovery will yield further specific evidence of Defendants' misuse of that information, including misuse of Arcadia Confidential Information not specifically claimed in the Arista Patents.

127. Defendants have also caused industry and consumer confusion by misrepresenting themselves as the inventors and owners of the inventions claimed in the Arista Patents and through developing products taking advantage of Arcadia Confidential Information disclosed under the NDA Agreement. In fact those inventions (or aspects thereof) were first conceived and reduced to practice by the Arcadia Scientists, are owned by Arcadia, and were taken by Defendants in violation of the NDA Agreement.

128. Defendants are therefore liable to pay for the damages suffered by Arcadia from their unfair competition, including the costs of acquiring and developing the intellectual property and damages, lost profits and lost reasonable royalties, as a result of Defendants' wrongful

actions, and disgorgement of Defendants' improperly obtained profits, for which damages Defendants are jointly and severally liable to Arcadia.

129. The damages caused by this unfair competition are presently believed to exceed \$10,000,000.00, with the exact amount to be proven at trial.

**COUNT V
(MISAPPROPRIATION OF CONFIDENTIAL INFORMATION)
(Against All Defendants)**

130. Arcadia realleges and incorporates by reference the above allegations as if set forth in full here.

131. The Arcadia Scientists' conception, experimentation, laboratory work, data, research, and development work with regard to the Arcadia Invention disclosed to Defendants was confidential information proprietary to Arcadia.

132. Further, upon information and belief, Defendants, including at least Limagrain and Arista, are using the Arcadia Confidential Information disclosed to them under the NDA Agreement, not all of which is incorporated into the claims of the Arista Patents, to further their own commercial development and unfairly compete with Arcadia, thereby gaining improper commercial advantage at the expense of Arcadia and in violation of Arcadia's rights. These activities are also benefitting Vilmorin, Arista and Limagrain's affiliate. Commencing at least with the discussions between the parties in 2010 detailed herein, Limagrain and Vilmorin acted together, including by being represented by the same person and by corresponding with Arcadia jointly for both entities. Based on this conduct, and Vilmorin's deep involvement in the collaboration with Arcadia as evidenced by its equity investment in Arcadia, Arcadia believes that Vilmorin and Limagrain have continued to act in coordination regarding the conduct at issue here.

133. Arcadia has detailed above the broad scope of confidential information disclosed to Defendants, and Arcadia believes that discovery will yield further specific evidence of Defendants' misuse of that information, including misuse of Arcadia Confidential Information not specifically claimed in the Arista Patents.

134. Arcadia took extensive steps to protect the confidentiality of that information, including storing it on secure computer systems and at secure facilities, limiting internal access to that information, and requiring key employees to agree to keep that information confidential. Arcadia further required Defendants to enter into the NDA Agreement prior to disclosing confidential information to Defendants, further evidencing Arcadia's efforts to protect this confidential information from improper disclosure.

135. This confidential information was of high economic value.

136. The circumstances of the parties' relationship created an expectation and intention that all such information would be maintained confidential and not be used by Defendants for their own benefit.

137. For example, Defendants' use and disclosure of that information through their filing of at least the utility patent applications leading to the '722 Patent and the '413 Patent breached their duty of confidentiality arising out of their relationship with Arcadia. Upon information and belief, Defendants have also misappropriated Arcadia Confidential Information disclosed under the NDA Agreement that is not specifically claimed in the Arista Patents.

138. Upon information and belief, Defendants knew of the circumstances of origin of the information shared by Arcadia with them, including the Arcadia Invention, and by that knowledge and their relationship with Arcadia, thereby also acquired a duty of confidentiality to Arcadia.

139. Defendants use and disclosure of that information breached their duty of confidentiality to Arcadia.

140. The use and disclosure of the Arcadia Invention and the Arcadia Confidential Information by Defendants in violation of their duty of confidentiality has damaged Arcadia, including damages, lost profits, and lost reasonable royalties and disgorgement of Defendants' improperly obtained profits, for which damages Defendants are jointly and severally liable to Arcadia.

141. The damages caused by this breach of confidentiality are presently believed to exceed \$10,000,000.00, with the exact amount to be proven at trial.

**COUNT VI
(UNJUST ENRICHMENT)
(Against All Defendants)**

142. Arcadia realleges and incorporates by reference the above allegations as if set forth in full here.

143. When the Arista Patents issued, Defendants received a benefit from Arcadia in their improper taking, possession and use of the Arcadia Invention, which is the property of Arcadia. When Defendants developed commercial products by taking advantage Arcadia Confidential Information, Defendants received a benefit from Arcadia in their improper taking, possession and use of the Arcadia Confidential Information, which is the property of Arcadia.

144. Further, upon information and belief, Defendants, including at least Limagrain and Arista, are using the Arcadia Confidential Information disclosed to them under the NDA Agreement, not all of which is incorporated into the claims of the Arista Patents, to further their own commercial development and unfairly compete with Arcadia, thereby gaining improper commercial advantage at the expense of Arcadia and in violation of Arcadia's rights. These

activities are also benefitting Vilmorin, Arista and Limagrain's affiliate. Commencing at least with the discussions between the parties in 2010 detailed herein, Limagrain and Vilmorin acted together, including by being represented by the same person and by corresponding with Arcadia jointly for both entities. Based on this conduct, and Vilmorin's deep involvement in the collaboration with Arcadia as evidenced by its equity investment in Arcadia, Arcadia believes that Vilmorin and Limagrain have continued to act in coordination regarding the conduct at issue here. Arcadia has detailed above the broad scope of confidential information disclosed to Defendants, and Arcadia believes that discovery will yield further specific evidence of Defendants' misuse of that information, including misuse of Arcadia Confidential Information not specifically claimed in the Arista Patents.

145. Defendants have provided no compensation or consideration to Arcadia for their improper taking and use of Arcadia's property, including the Arcadia Invention.

146. Defendants' retention and profitable exploitation of the Arcadia Invention and benefits therefrom are inequitable.

147. Defendants are therefore liable for the damages suffered by Arcadia, including the costs of acquiring and developing the intellectual property and damages, lost profits, and lost reasonable royalties, as a result of Defendants' wrongful actions, and disgorgement of Defendants' improperly obtained profits, for which damages Defendants are jointly and severally liable to Arcadia.

148. The damages caused by this unjust enrichment are presently believed to exceed \$10,000,000.00, with the exact amount to be proven at trial.

**COUNT VII
(CONVERSION)
(Against All Defendants)**

149. Arcadia realleges and incorporates by reference the above allegations as if set forth in full here.

150. Arcadia is the owner of the Arcadia Invention and is actually the proper joint owner of the Arista Patents.

151. When the Arista Patents issued improperly claiming that persons associated with Defendants were the only inventors of the inventions claimed therein, and when the Arista Patents were assigned in whole to Arista, Defendants converted Arcadia's property.

152. Arcadia is the owner of the Arcadia Confidential Information disclosed to Defendants.

153. As detailed above, Defendants' were experiencing failures with their technology, so they intentionally decided to convert and use the information disclosed by Arcadia to further their own business interests, without any compensation to Arcadia.

154. Further, upon information and belief, Defendants, including at least Limagrain and Arista, are using the Arcadia Confidential Information disclosed to them under the NDA Agreement, not all of which is incorporated into the claims of the Arista Patents, to further their own commercial development and unfairly compete with Arcadia, thereby gaining improper commercial advantage at the expense of Arcadia and in violation of Arcadia's rights. These activities are also benefitting Vilmorin, Arista and Limagrain's affiliate. Commencing at least with the discussions between the parties in 2010 detailed herein, Limagrain and Vilmorin acted together, including by being represented by the same person and by corresponding with Arcadia jointly for both entities. Based on this conduct, and Vilmorin's deep involvement in the

collaboration with Arcadia as evidenced by its equity investment in Arcadia, Arcadia believes that Vilmorin and Limagrain have continued to act in coordination regarding the conduct at issue here.

155. Arcadia has detailed above the broad scope of confidential information disclosed to Defendants, and Arcadia believes that discovery will yield further specific evidence of Defendants' misuse and conversion of that information, which is Arcadia property, including misuse of Arcadia Confidential Information not specifically claimed in the Arista Patents.

156. Arcadia has the right to immediate possession of its ownership interest in its property.

157. Defendants have improperly and without justification interfered with Arcadia's property, and its ownership interest and possession in the Arcadia Invention and its joint ownership rights in the Arista Patents. Defendants have also improperly and without justification interfered with Arcadia's property interests in Arcadia Confidential Information.

158. Arcadia demanded an end to this interference and misuse of Arcadia property on November 1, 2017, when Arcadia put Arista on notice that Arista had improperly sought to claim ownership rights of inventions first conceived by Arcadia and sought to have Arista take steps to remedy this conduct, a demand that Defendants to date have refused.

159. Defendants' improper conduct has injured Arcadia by seeking to deprive Arcadia of its ownership and rights in the Arcadia Invention and in Arcadia Confidential Information, and by preventing and usurping Arcadia's ability to take commercial advantage of the Arcadia Invention.

160. Arcadia demands return of its property.

161. Defendants' conduct has also resulted in injury to Arcadia, including damages, lost profits and lost reasonable royalties, for which injury Defendants are jointly and severally liable to Arcadia. Defendants should also disgorge their ill gotten profits from their improper conduct.

162. The damages caused by this conversion are presently believed to exceed \$10,000,000.00, with the exact amount to be proven at trial.

**COUNT VIII
(TORTIOUS INTERFERENCE)
(Against All Defendants)**

163. Arcadia realleges and incorporates by reference the above allegations as if set forth in full here.

164. Defendants, including at least Limagrain and Arista, have improperly publicly promoted their false and deceptive assertion of sole ownership of the inventions claimed in one or more of the Arista Patents (or aspects thereof) to discourage potential business partners from working with Arcadia to develop, license, and/or launch commercial products. Defendants have been able to do this in part because they have their own commercial products, which commercial products were developed and patented in the Arista Patents taking advantage of the Arcadia Invention and Arcadia Confidential Information.

165. Further, upon information and belief, Defendants, including at least Limagrain and Arista, are using the Arcadia Confidential Information disclosed to them under the NDA Agreement, not all of which is incorporated into the claims of the Arista Patents, to further their own commercial development and unfairly compete with Arcadia, thereby gaining improper commercial advantage at the expense of Arcadia and in violation of Arcadia's rights. These activities are also benefitting Vilmorin, Arista and Limagrain's affiliate. Commencing at least

with the discussions between the parties in 2010 detailed herein, Limagrain and Vilmorin acted together, including by being represented by the same person and by corresponding with Arcadia jointly for both entities. Based on this conduct, and Vilmorin's deep involvement in the collaboration with Arcadia as evidenced by its equity investment in Arcadia, Arcadia believes that Vilmorin and Limagrain have continued to act in coordination regarding the conduct at issue here.

166. Arcadia has detailed above the broad scope of confidential information disclosed to Defendants, and Arcadia believes that discovery will yield further specific evidence of Defendants' misuse of that information, including misuse of Arcadia Confidential Information not specifically claimed in the Arista Patents.

167. Defendants have interfered with Arcadia's commercial relations and prospective business advantage by using, among other things, one of more of the issued Arista Patents to dissuade growers, mills, and other development and commercial partners from working with Arcadia. Defendants are also misusing Arcadia Confidential Information disclosed under the NDA Agreement for that same purpose.

168. Defendants engaged in this improper conduct specifically to injure Arcadia and to improperly benefit themselves.

169. Arcadia has a reasonable expectation of economic advantage based on the novelty and value of the Arcadia Invention and Arcadia Confidential Information and the NDA Agreement put in place to protect its interests.

170. Defendants are intentionally interfering with Arcadia's business relations and prospective economic advantage with third parties.

171. This conduct has injured Arcadia by seeking to deprive Arcadia of its ownership and rights in the Arcadia Invention and the Arcadia Confidential Information disclosed by Arcadia and by preventing and usurping Arcadia's ability to take commercial advantage of the Arcadia Invention.

172. There was no justification for Defendants' conduct.

173. This conduct has resulted in injury to Arcadia, including damages, lost profits and lost reasonable royalties, and Defendants should disgorge their ill-gotten profits, for which injury Defendants are jointly and severally liable to Arcadia.

174. The damages caused by this tortious interference are presently believed to exceed \$10,000,000.00, with the exact amount to be proven at trial.

COUNT IX
(CORRECTION OF INVENTORSHIP AND DECLARATORY JUDGMENT FOR
CORRECTION OF INVENTORSHIP)
(Joint Inventorship of the '722 Patent)
(Against Arista)

175. Arcadia realleges and incorporates by reference the above allegations as if set forth in full here.

176. There is an actual and justiciable controversy between Arcadia and Defendants, because Arcadia asserts that Defendants improperly determined to take and to use confidential information of Arcadia to file the '177 Application that led to issuance of the '722 Patent.

177. Arcadia is party to Interference 106,094 on the '722 Patent currently under appeal. If Arcadia prevails in that interference, the Arcadia Scientists would be sole inventors of the technology claimed in the '722 Patent. Although Arcadia believes Section 256 also grants this Court the authority to make sole inventorship determinations, to avoid any inconsistencies

between proceedings here and at the PTO, here Arcadia limits its relief sought here to joint inventorship.

178. The Arcadia Scientists are joint inventors of subject matter claimed in the '722 Patent. Therefore, inventorship of the '722 Patent should be corrected to so state, and Arcadia should therefore be added as an assignee of the '722 Patent.

179. Defendants contest Arcadia's inventorship claims concerning the '722 Patent.

180. Defendants' wrongful actions as detailed above have deprived Arcadia of its assignable ownership interest in the '722 Patent and the benefits therefrom.

181. Defendants' wrongful actions as detailed above have resulted in erroneous inventorship on the '722 Patent.

182. Issuance of a certificate of correction on inventorship for the '722 Patent and declaratory relief will clarify and is the only means to clarify the disputed rights and obligations of the parties under federal law, is in the public interest, and is therefore appropriate to resolve this controversy.

183. Arcadia is therefore entitled to a finding pursuant to 35 U.S.C. § 256 and a declaratory judgment pursuant to 18 U.S.C. § 2201 that: (i) the Arcadia Scientists are joint inventors of the '722 Patent and a certificate of correction should issue; (ii) Arcadia is a proper assignee of the '722 Patent; (iii) the currently-listed inventors are not the only inventors; and (iv) the assignments of the whole interest in the '722 Patent solely to Arista were unauthorized, improper, and invalid.

WHEREFORE, Arcadia seeks judgment as follows:

(1) Arcadia should be granted judgment on its inventorship claims in Counts I and IX pursuant to 18 U.S.C. § 2201 and 35 U.S.C. § 256;

(2) On Counts II through VIII, awarding judgment to Arcadia for all monetary and equitable remedies available under applicable law for Defendants' improper conduct; and

(3) Awarding such other and further relief as the Court deems just and proper.

Dated: October 26, 2018

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Counsel for Plaintiff

CERTIFICATE OF SERVICE

I hereby certify that on October 26, 2018, I electronically filed the foregoing **FIRST AMENDED COMPLAINT** with the Clerk of the Court using the CM/ECF system which will send notification of such filing to counsel of record.

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Counsel for Arista Cereal Technologies Pty Limited

I hereby further certify that on October 26, 2018, I served the foregoing **FIRST AMENDED COMPLAINT** by email upon the following non-CM/ECF participants at the addresses below:

Christopher L. North, Esq. (christopher.north@bipc.com)

Todd R. Walters, Esq. (todd.walters@bipc.com)

Of Counsel for Arista Cereal Technologies Pty Limited

By: /s/ Andrew P. Zappia

Andrew P. Zappia